

**ELECTROCHEMICAL METHOD AND APPARATUS FOR
PRODUCING AND SEPARATING FERRATE (VI) COMPOUNDS**

ABSTRACT OF THE DISCLOSURE

The method for separating ferrate salts from a solution comprising providing contact between the solution of essentially of aqueous hydroxide and the ferrate salts and a surface having a magnetic attraction, magnetically securing the ferrate salts to the surface; and eliminating contact between the solution and the surface. Contact is provided by immersing the surface in the solution, passing the liquid ferrate mixture over the surface, or combinations thereof. The magnetic attraction may be induced by permanent magnets, electromagnets, and combinations thereof. The apparatus for ferrate production comprises an electrochemical cell having an iron-containing anode, cathode, and an aqueous hydroxide solution in fluid communication with both the anode and the cathode, and a magnetic separator in fluid communication with the aqueous hydroxide solution for separating ferrate salts from the aqueous hydroxide solution.